

MOTORCYCLE HELMETS ARE NOT SAFE!

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The present testing standard for motorcycle helmets (FMVSS-218) was created almost 30 years ago. The helmet manufacturers are required to perform all motorcycle helmets testing in a laboratory on a headform. The result is a motorcycle helmet designed to pass the testing standard which is to protect a headform in a laboratory. The testing does not simulate what would happen to a motorcyclist wearing that helmet in the event of an actual accident. The present testing standard does not exceed a simulated impact speed of 13.66 mph, nor does it take into account the stresses that would be transferred to a motorcyclist's neck and spinal cord, the reduced vision and hearing, the effects of a chin strap around the throat, or the effect on the brain when the helmet bounces. As many State's (including California) have enacted laws that mandate motorcyclist's wear a helmet (or become a criminal), the testing standards should reflect what exactly a helmet will do to a motorcyclist in the event of an actual accident.

If the safety of the motorcyclist is the primary concern, then the testing standards should reflect that as it stands now, the safety Nazi's say that helmets are safe, when the real truth is that helmets can only be proven to protect a headform in a laboratory. Until the testing standards are designed with the motorcyclist's safety as the primary objective, motorcyclist's who ride in mandatory helmet law States will be required, by law, to wear a helmet that is designed to protect a headform, not a motorcyclist. If the testing used crash dummies with sensors (to detect possible injuries), in realistic accident situations (like a car turning left in front of the motorcyclist), we could determine if, in fact, helmets can actually cause injuries. The laws of physics state that a 4 pound helmet, at 50 mph, becomes 200 pounds upon impact. This is a law that cannot be repealed by anyone and it is an indication that the present motorcycle helmets are not as safe as some would claim. One of the requirements of FMVSS-218 is an impact test performed by dropping the helmet (and headform) onto an anvil from a height of no more than 72 inches which simulates an impact speed of 13.66 mph. Using a Newton equation' for a 170 pound rider, with deceleration of the brain being the controlling factor, the following helmet thicknesses would be required:

IMPACT VELOCITY	HELMET THICKNESS
4 MPH	1"
10 MPH	1.8"
15 MPH	4"
20 MPH	6.5"
30 MPH	15"
40 MPH	29"

The current 1" thick helmets weigh from 2 to 4.5 pounds. If the testing were done at an impact speed of 20 mph, the helmet would have to be at least 6" thick, and weigh 15 to 20 pounds in order to pass testing. The current 4 pound helmet puts a terrible strain on the neck without impacting anything and upon impact, the bending momentum to the neck will more than double. The neck is the weakest link, and FMVSS-218 does not take this into account (as the required headform has no "neck" at all, nor does it simulate a human body at all, as it's only a headform) There have been many motorcyclist's who have become a quadriplegic due to the effects of wearing a helmet. A female motorcyclist wearing a helmet is twice as likely to die as likely as a male motorcyclist (this is probably due to the smaller, weaker neck of a female).

Another requirement of FMVSS-218 (S5.4) is that a helmet provides no less than 105 degrees peripheral vision. A driver's license test requires 140 degrees peripheral vision, and a motorcyclist with only 105 degrees peripheral vision is considered to be legally blind Also, when wearing a helmet, the acute decrease in hearing would prevent a person from receiving a driver's license. Therefore, according to DMV regulations, when wearing a helmet a motorcyclist is legally deaf & blind!

Helmets are not a safety device for motorcyclists, and mandatory helmet laws are nothing more than a mandatory dress code with the ability to cause injury and death. But a helmet will protect a headform in a laboratory (up to 13.66 mph); unfortunately, headforms do not ride motorcycles.

Footnote

$$[1] \text{ KE} = \text{WH}$$

$$= 1/2 \text{ w/g v}^2$$

$$\text{V} = \text{at}$$

$$\text{g} = 1/2 \text{ at}^2$$

$$\text{KE} = 1.2 \text{ w/g (at)}^2$$

KE = Kinetic

V = Velocity

W = Weight

H = Height

g = Acceleration of Gravity

t = Time

a = distance

The foregoing is a Newton equation.